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Practice-based Research Paper:

Horticulture as Therapy in Toronto:

Unearthing Healing and Wellness in a Post-Industrial Setting

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Abstract

This paper explores how community service providers in Toronto are using Horticultural therapy to engage with local ecological landscape to support client rehabilitation and wellness. A qualitative Deep Ecology theoretical framework through an inductive, revised, grounded theory research methodology was used. This research hopes to further the understanding of how community program service providers could facilitate therapeutic processes through engaging with ecology in Toronto's urban landscape. This study strived to deepen understanding of benefits in the use of land and environment for community and therapeutic programming in an urban setting. Data was collected through semi-structured, interviews with six service providers who are facilitators or developers of wellness programs which offer forms of horticulture for therapeutic benefits. Subsequent questions inquired how service providers see urban issues as intersecting into their work in the metropolitan context of Toronto. Providers expressed how their work in urban environments enables, in their words, the creation of natural oases. Adaptability is a strong theme evident in the year-round horticultural programming available in Toronto's temperate climate. An all-encompassing age range (0-95) of Torontonians is serviced through local HT. A significant diversity of populations was found to access needs-specific horticultural programs. Connectedness appeared as a strong guiding principle in local horticultural wellness programming. Varied critical perspectives were offered by the professionals on the distancing or entrenchment into the naming of their programs as a 'therapy'. Food production in horticulture and its power of bringing people and cultures together in Toronto's metropolitan environment emerged as a theme. The use of natural waterways is a strong practice in Toronto's landscape for counselling of trauma, grief, death and life-changing experiences. Implications for broader social work practice, theory, and research are discussed.

Chapter 1: Introduction

The purpose of this research is to gain a deeper understanding of the dynamics and motivations for service providers to develop and engage in horticultural therapy in the post-industrial context of Toronto. This research involved interviews with local service providers to unearth how healthy living programs in diverse fields of community work are engaging with our local ecological landscape through the development of horticultural therapy wellness initiatives. Defined at its humblest, Horticultural Therapy is “a process of working with plants and gardening resources to achieve a therapeutic end” (Smith, 1998, p.14). The diversity of approaches to practice horticultural therapy is unbounded and not as confined to space or western protocols as other types of clinical or occupational therapies. As the researcher, I aspire to support Canadian social work initiatives that promote environmental engagement and nature-based wellness into community health programming and clinical social work practices. As the Greater Toronto Area experiences continuous densification and ever-diversifying populations, the shared landscape that we occupy remains a finite ecological resource that sustains our community and individual health. I aspire to use the awareness gained in this research to support the development of horticultural therapy programming for people in urban residential addiction treatment settings.

Born into the world as a colonial byproduct of this landscape, my views are shaped through my identity as a person of French Canadian heritage and further influenced by Canadian public education systems and having opportunity for Indigenous worldview teachings through some lived experience within a First Nations community. Aurini, Heath & Howells articulated ‘researcher bias’, as “the tendency that researchers have to collect, interpret or present data that support their own prejudgments, theories or goals. This concept has to do with the subjectivity of the researcher” (2016, p.60). Acknowledging myself as a settler on this landscape, I will

recognize the reality that the therapeutic modality I am researching is directly seeking to provide a healing engagement through usage of colonized Indigenous territories. Bridging this privileged distance between social work and environmental discrimination within colonial land dynamics are only but two branches to uncover in the forest of a deeper ecological social work.

The means selected for probing the research questions was through interviews with local service providers. These interviews invited providers to describe the range of observations they have gathered in their work and the approaches and philosophies around horticultural therapy gardens and healing gardens for wellness initiatives with diverse local populations. As the researcher, I held previous work, volunteer, and life experience with several facets of horticulture in a community social work perspective. I have had work experience with multiple Toronto community food organizations as an urban agriculture program assistant, community garden worker, workshop facilitator, urban waste management educator and environmental ambassador. I have spent over twenty years developing skills as a naturalist, studying local ecologies and incorporating nature programming into my social work and community advocacy.

Much of my interest for engaging with community-based environmentalism has been influenced through my upbringing in the location of one of Canada's most notorious cases of environmental racism and environmental discrimination: Sarnia, Ontario's Chemical Valley. Experiencing a childhood in one of Canada's most polluted communities shaped my capacity for awareness of the impacts that human industry and development have on the landscape. It also takes an unfathomable toll on the wellness of the people who live alongside extreme industrial landscapes. Many scholarly writers who researched this case of environmental discrimination use vivid descriptions of the aura of the industrial landscape in Chemical Valley. For example, Wiebe (2016) described land in Aamjiwnaang First Nation, a reserve adjacent to Chemical

Valley and Sarnia, as a “a seemingly post-apocalyptic environment, [where] sounds mask the silence with which invisible chemicals penetrate bodies” (p.11). Albrecht (2006) familiarized the term ‘solastalgia’ which he described as “pain or sickness caused by the loss of, or inability to derive solace from, the present state of one's home environment” (p.35).

It is my experience of discomfort with knowing that communities are often subjected to unwanted environmental degradation and inability to access a healthy landscape that fuels my passion for researching the possibilities for social work and the environment for Toronto.

Jackson, (2011) coined the term ‘dysplacement’ a profound sense of alienation from the landscape, often interconnected to experiencing environmental burdens brought on through political, social or economic abuse of the surrounding localities. My dialectic interests of environmentalism and social work often feels like a fork in the road, with two choices: to follow a path of advocacy for the environment, or to follow a path of advocacy through social work with people. It is my true interest to follow a path of advocacy and social work for both the environment and the people within it.

The opportunity to work with amazing food security and urban agriculture community organisations showed offered highlights into the benefits of working with people and the land. The roughly 130 community gardens highlighted by the Toronto Community Garden Network are each amazing examples of the necessity and diversity of gardening across the city. The interconnections, sharing, nutrition and wellness that arise through urban horticulture are historically prominent yet underused methods for developing social work programming in our metropolitan contemporary society.

After spending about five years working with urban agriculture in various food projects and garden programs, I noticed the importance of discussion, support, healing, nutrition,

connectivity, nurturing and wellness that become second nature in the conversations amongst participants as they garden. It was noticing those phenomena that led to my interest of understanding the therapeutic benefits of horticulture. It was the blessing of one of the senior coordinators of a garden that I worked at who introduced me to the term Horticultural Therapy. Upon my researching of this topic, I discovered the Canadian and American Horticultural Therapy Associations. It was through learning of the outstanding and passionate work that Horticultural Therapists do with diverse communities across Canada that I saw a path that my social work could take.

The material to come through subsequent chapters in this research paper will outline the current themes in broader academic and organizational literature that show how horticulture is practiced in diverse wellness and therapeutic programs. As there was very limited academic published literature about therapeutic horticulture in Toronto, this paper strives to offer a platform to highlight its scope across Canada's largest city. The literature review of horticultural therapy (HT) will highlight how it functions as a therapy, the populations that access the programming, the structures of programs that employ HT, the uses of horticulture in urban areas, and the practices of horticulture in community programs in Toronto.

The second chapter will begin with a review of academic literature connecting the environment into social work. A Deep Ecological theoretical framework will first be discussed in the literature review to establish a foundation for the interweaving of ecological awareness in community programming. Deep Ecology helped to frame the focus of data collection for more awareness of interconnectivity between human wellness, engagement with the local environment

The third chapter will outline the design and methods of this research process, detailing the methodology, data collection process and data analysis. The outcomes of the research

participant outreach and interview process will be shared. Following this, chapter four will present the findings from the analysis of the six interviews with service providers of horticulture wellness programs across Toronto. The findings will be organized into themes as well as highlights in case exceptions which interviewees provided as they discussed how they are engaging with the landscape as well as bearing witness to their participants movements through the therapeutic processes in their programs. The fifth chapter will summarize the findings and reflect back into the broader academic literature discussed in chapter two. The fifth chapter will conclude with reflections about the unanticipated findings, limitations, and recommendations for environmentally-aware social work in Toronto based on the findings.

Through the reading of this research paper, the reader is encouraged to reflect on their own relationship and interconnectivity with the landscapes they occupy.

Chapter 2: Theoretical Framework and Literature Review

Unearthing a Deep Ecology Theoretical Perspective

In an attempt to synthesize the limitations of literary academia with the grassroots, holistic essence of horticultural therapy, an ecological perspective was identified a starting point for partaking in a research process. Considering the values that are linked to critical social work practice, it became clear that traditional ecological theories were limited and thus a deeper sense of perspective was necessary to attempt a thorough reflection about doing land-based wellness programming in a highly urban setting like Toronto. Glesne (2011) advised that “part of your duty as a researcher is to figure out what theoretical perspectives inform the kind of work you choose to do” (2011, p. 5). The choice to partake in research about service providers engaging specifically with land and ecology for participant wellness within an urban context resonates with the theoretical values of the Deep Ecology movement. As this research has a responsibility to acknowledge that such horticultural therapy programming is taking place on a landscape that experiences ongoing dynamics of colonialism and industrialization of Indigenous territories, it is important to use a philosophical framework that makes space for diverse worldviews and acknowledges a broad environmental spectrum inclusive of more than solely human exchanges and needs on this territory. *Deep Ecology* is a westernized, environment-conscious paradigm which shines importance to natural phenomena and beings which are often overlooked when using other dominant research paradigms.

Besthorn and Canda (2008) defined Deep Ecology’s (DE) axiology, ontology, epistemology and its function as a ‘social action methodology’. Besthorn and Canda explained that the ontology of the DE paradigm “understands nature and the nature of humans in a holistic way. Human beings are not the prime center of importance of the universe. They are one type of being whose existence completely depends on relationship with all other beings” (2008, p.86).

This statement quickly shifts attention of a worldview towards dynamics occurring within and, also, outside of the human. It also diverges away from religion-based doctrines that set all of creation as a stage for human needs. Besthorn and Canda further explained that the epistemology of DE “takes critical reflection to a deeper level by questioning human-centeredness as a distortion of reality that underlies other forms of oppression directed at humans and other beings” (2008, p.87). This strong statement provides a critical social work stance that can make space to express and advocate that populations and communities across Toronto do practice diverse worldviews and will have significantly differing needs in terms of environmental wellness and ecological engagement as a component of health.

Besthorn and Canda’s notion of Deep Ecology as a ‘social action methodology’ (2002, p.89) will support social workers and service providers who support and act as allies in advocacy for communities that are heavily impacted by environmental degradation and environmental racism. Besthorn and Canda outlined DE epistemology as ‘deep questioning’, ‘deep empathy’, and practicing ‘holistic inquiry’ (2008, p.85). Furthermore, Besthorn and Canda explained DE axiology as “harmony with and reverence for nature”, “inherent worth of all beings” and “human responsibility” (2008, p.85). The strong focus on interconnections and even reverence for the non-human beings on the planet appear to strongly echo contemporary canons of diverse Indigenous worldviews. I argue that this existence of echoed values may be a space for relationship repair with Indigenous nations in Canada’s ongoing colonial context.

Devall (1980) offered an article introducing DE from the philosophical world into the tactile world. The title of his article, *The Deep Ecology Movement*, also slants DE into a critical perspective. Devall wrote (1980, p.299) “deep ecology questions the fundamental premises of the dominant social paradigm”. Arguably, the dominant social paradigm in Toronto

is the traditional Euro-American capitalist neoliberal paradigm that perceives and relates to our environment as a capital product or rentable allotment rather than as a source of sustenance, healing, wellness and existence. Further entrenching a critical perspective is Devall's statement that "deep ecology seeks transformation of values and social organization" (1980, p.303)/ Devall's use of the word 'transformation' supports service providers in advocating for more than just a *shift* or of *increasing/decreasing* habits that are impacting the world around us. When people give time and focus to look and to care more deeply into our intertwining networks and interdependence with our environs, it can be a grounding exercise as well as a portal to broader social work awareness.

To harness transference from a philosophical framework into a practicable sociopolitical movement, one may show the link between DE and the political Green Movement. Ife (1991), explicated (p.336) that "the Green position identifies the causes of environmental degradation and crisis as embedded within the social and economic system..." requiring "more than simply policies of environmental protection; it involves significant social and economic change". The similar values of social and economic change are echoed in Ife and Devall's writings. Ife also connected the Green Movement to a 'holistic' perspective of 'interconnectedness' (p.338) which echoes the DE epistemological and ontological key concepts communicated by Besthorn and Canda (2008, p.85). To relate the social policy desires of the Green Movement into the grassroots work of horticultural therapy programming, Ife explained that the notion of accountability under a Green perspective is "an issue of scale: large versus small, top-down versus bottom-up, empowering versus disempowering" (1991, p.340). Ife deduced then that "a Green position, therefore, is consistent with a move towards more community-based decentralized structures for the meeting of needs" (1991, p.340). This decentralized meeting of

needs is perhaps the most appropriate method of building community relationships of healing and programs for client/patient wellness. Locally-planned wellness initiatives are needed to heal damaged ecosystems relationships that in some ways are influenced or at other times are directly connected to the post-industrial, neocolonial urbanized context of metropolitan Toronto.

Zapf (201) noted that “as a profession with long-standing declared focus on person-in-environment, social work might be expected to play a leadership role in the planning stages of any new environmental state” (2010). With current social policy trends focusing on population concentration around the Great Lakes, the oil industry, mining, Indigenous rights, densification and gentrification, cultural practices and water/air human rights, the future of social policy in Toronto and Canada *is* environmentally motivated. Zapf also noted that “ecological thinking is a process, a worldview, a set of principles, an awareness that must affect all approaches to enquiry and practice if we are to survive” (2010). Toronto’s distinctive milieu as a pier for world migration brings the question of what it means for Torontonians to have a connection or use of the landscape. This brings to light the question of whether service providers are seeing a need to engage in wellness initiatives that directly engage with the landscape. Zapf noted that “when inhabitants of a region have been there for many generations, their identity incorporates the place and their relationship to it” (2010). The longer we as settlers occupy the GTA, the deeper our identity incorporates this landscape. That being said, the relationship between First Nations worldview and the landscape within the GTA is eons deeper.

Besthorn and Canda invoked social advocacy spirit as they wrote “deep ecology is both a paradigm for understanding the world and a social movement for environmental responsibility” (2008, p.83). Ife (1991) explained that “the Green position identifies the causes of environmental degradation and crisis as embedded within the social and economic system...” requiring “more than simply policies of environmental protection; it involves significant social change” (p.336).

Such ‘significant social change’ is often disconnected from an individual’s hope to impact any further than their own scope of autonomy.

Ife connects the Green Movement to individual values of a ‘holistic’ perspective of ‘interconnectedness’ (1991, p.338). Ife’s remarks change lenses from a political or economic movement towards a more social movement. These values are very relevant within the Deep Ecology Movement. Devall (1980) explained Deep Ecology as a revolutionary stream of environmentalism, “seeking a new metaphysics, epistemology, cosmology, and environmental ethics of person/planet”, which “questions the fundamental premises of the dominant social paradigm” (p.299). This broader, deeper understanding of our relationship with our natural surroundings is the inspiration behind learning how individuals might access wellness in an urban space. The critical awakening of responsibility for self in the planet may also stimulate social and economic policy that amplifies our care for and ameliorates the sustainability in how we make use of local environment. Circles of Sustainability, a research association with Western Sydney University wrote (2016) whilst defining the term ‘ecological’ that, “the ecological is thus not treated as a background context for human action but rather a place of being human and non-human”. If we are not separate from the ecological, social work is also part of, and inseparable from, the ecological (see Pardeck, 1988).

The manifestation of ‘Environment’ in Social Work Association and Horticultural Therapy Association Formal Documents:

Research into how service providers practice therapy and healing with the landscape was undertaken to identify where there could be gaps or missed opportunities for social workers to reflect on how their work does or does not engage with the landscape. In order to expand my understanding of the ways that an environmental agenda could fit within Canadian social work, I reviewed literature from prevailing associations to see how concepts of ‘environment’ are

integrated into formal ethics. According to the Canadian Association of Social Workers' *Scope of Practice* (2008), "the primary focus of social work practice is on the relationships between individuals, their natural support resources, the formal structures in their communities, and the societal norms and expectations that shape these relationships" (p.1). This research paper will aim to be critically reflective about gaps of 'shallow ecology' that exist within the limited basic "person-in-environment perspective" as stated by CASW (2008). The provincial guide of the Ontario College of Social Workers and Social Service Workers' *Code of Ethics and Standards of Practice* articulates that, "a social worker or social service worker shall advocate change in the best interest of the client, and for the overall benefit of society, the environment and the global community" (OCSWSS, 2008, p.2). Although the environment is only acknowledged once in the final declaration in the code of ethics, it appears within an interconnected notion of social advocacy that reinforces the linkages between the individual and the environment. Thus, social work in Ontario ethically needs to consider how our work is advocating change which benefits or hinders our local environment. Perhaps Canadian social work can have a deeper reach and impact to our environment and global community if we practice a deeper ecological human and environment perspective.

Horticultural Therapy is one longstanding method of practicing a deeper localized engagement that is considerate of both the best interests of the client and the environment (see Sempik, 2010). Literature from guiding national organizations for Horticultural Therapy was taken into account for review of their conceptualizations of 'environment' and 'ecology'. As the code of ethics for social work was reviewed, so were the codes of ethics from both the Canadian Horticultural Therapy Association and the American Horticultural Therapy Association. The documents were compared in their formal articulations of service practice

within a notion of ‘environment’ or ‘ecology’. Ironically, the Canadian Horticultural Therapy Association’s *Code of Ethics*’ first point of responsibility is for a member of the CHTA to “provide a safe and appropriate environment” (2009). This introduction of environment in the beginning of ethics rather than the ending, highlights that the concept of ‘environment’ is key to providing a service in an ethical way. The American Horticultural Therapy Association’s *Code of Ethics* articulates within its *professional competence* statement that members of the AHTA shall have competency to practice with

emphasis on the utilization of the horticultural environment in therapy and rehabilitation. A member shall be familiar with the studies and processes of human and plant interactions, thereby understanding and interpreting information acquired during the therapeutic activity. (AHTA, 2016)

The AHTA dictates in a clear and precise statement that the focus of service provision is directly linked to the engagement between participants and specifically the usage of a ‘horticultural environment’. The AHTA’s *Positional Paper* (2007) also articulated in a specific manner that “the benefits of involvement in Horticultural Therapy and *exposure to nature* can be seen in cognitive, psychological, social, and physical realms” (p.3). The AHTA’s core values begins with a statement that “quality of life is related to the connection to the natural world” (2007, p.6). We are thus seeing major professional social work and Horticultural Therapy organizations making use of the terms ‘nature’, ‘environment’, ‘ecology’ and ‘ecosystem’ to indicate spaces where services harness wellness through direct interconnectivity between individuals and their environmental surroundings.

This research of horticultural therapy in Toronto is hoping to support broader social work awareness towards the use of deeper ecological scopes of practice than the ‘person-in-environment’ perspective (CASW 2008, p.1). Ungar (2002) explained the presence of ecological social work important for practice since the 1970s and shed credit to Ernst Haeckel in the late

19th century first to use “ecology” to refer to “interdependencies among organisms in the natural world” (2002, p481). Twenty years prior to the release of the CASW *Scope of Practice*, Pardeck (1988) discussed how social work’s ecological approach shifted deeper from a person-in-environment orientation through the notion of ‘transactions’:

through the concept of transaction, the ecological approach shifts the focus of treatment from the client’s personality and behavioral make-up to the client’s interrelationship with the family, community, and other systems. (1988, p.137)

The focus on the transactions and interconnectivity between a human and their surroundings, through cycles, across systems and time periods is a key foundational perspective for the practice of Horticultural Therapy (AHTA, 2007). Ungar notably highlighted the fact that a naïve depiction of transaction approach in an ecosystem can ignore oppression and power imbalances (2002, p.483). It is thus necessary to carry a critical perspective to acknowledge discriminations in an environment. Beyond the realm of organizational literature, the substance of this therapy exists in the ground and with the people. Literature exploring case studies from diverse institutional, clinical and community settings was reviewed to grasp what is being done, and what needs to be done in the field of HT.

Academic Literature Discussing Horticultural Therapy:

Much of the scholarly literature relating to Horticultural Therapy (HT) appears as case studies using analysis, interpretation, evaluation and discussion of certain phenomena about the therapy. Physiological changes to participants (Deitweiler et al., 2015), psychological, social (Sempik, 2010; Page, 2008), occupational (Fleming, 2015) and community impacts that this field of programming offer. Researchers are also describing, interpreting (Dunlap, et.al. (2013), and comparing the therapeutic impacts of HT on participant bodies, mind, and spirit (Rothert, 2007), thus inferring relationship to the social health determinants of broad cultural

communities or specific population as in Detweiler (2005). Other forms of studies included pre- and post- intervention test designs (Lai et. al., 2017), focus group research (Christie et. al., 2016). School-based and trauma-informed programming (Trauth, 2017).

A unique article holding relevance to this research initiative was authored by Sabra (2016). Sabra provided an autobiographical report of her experiences as a clinical social worker who developed a horticultural therapy community reintegration group for individuals living in a supportive housing program and with a mental health diagnosis. Sabra explained that her program “provided a platform to develop social skills with other members of the residential community” (p.32). Sabra noted (p.35) that “hope is inherent in gardening”. This phrase could be interpreted as touching upon a spiritual notion of hope, and this could further link to the common ancient uses of spirituality that practiced ceremony, hope and prayer for sustained food.

Sabra’s discussion of hope in gardening, alludes to the diverse cultural and religious traditions across the planet that are rooted in the landscape. Sempik’s retelling of the British lineage of HT and religion (2010) pointed out historical horticultural practices that serviced ‘medieval hospitals and monasteries’ as well as the association of Victorian asylums and their accompanied farms and gardens which “continued until around the middle of the 20th century” (2010, p.16).

Other Types of Institutional-Setting Gardens

Detweiler (2005) authored a case study article that focused in on one specific type of horticultural therapy setting; a ‘dementia wander garden’. Detweiler investigated the use of this type of garden as a tool for restorative therapy with individuals requiring ‘post-stroke rehabilitation’ (2005, p.54). In addition to medical patient populations as recipients of HT therapy, an intriguing set of literature investigates the impact that horticultural therapy has on

institutionalized populations. Rice (1998) authored a study investigating the ‘psychosocial functioning’ changes in 48 jail inmates who participated in the “San Francisco Sheriff’s Department horticultural therapy program” (p.159). Richards and Kafami (1999) “evaluated the impact of an in-prison horticultural therapy program” on both male and female incarcerated offenders’ resistance and vulnerability behaviors to addiction (p.183). Christie et. al. (2016) conducted a long-term (12-month) HT program study for an institutionalized population in England of dual diagnosis males with personality disorder and intellectual disability (p.4).

Another institutionalized group that has received significant presence in academic research literature involved with horticultural therapy is the diverse elder population living in long-term care. Burgess (1990) considered several benefits of application of HT programs for elders in nursing homes, including psychosocial benefits, opportunities for self-expression, social interaction, practicing control and independence among others. Other elder groups have been documented in relationship to their hormonal changes after engaging in HT. Detweiler et al. (2015) measured cortisol levels in veterans engaging with HT. It is possible that focusing a report solely in on the biological features of therapeutic results might limit or ignore important social, spiritual, emotional or occupational benefits reaped through this therapy.

Also studying therapies within healthcare, Gigliotti, Jarott and Yorgason (2004) presented an exploratory study investigating “differential responses of persons with dementia to three types of HT activities: cooking, crafts and planting” (p.161). Additionally, Montgomery and Courtney’s article (2015) presented and explained one specific subfield of HT, called Botanical Arranging. Montgomery and Courtney connected this therapy to the fields of ecopsychology and art therapy (p.17). Smith (1998) focused in on the dynamics of HT therapists in their experience of delivering the service.

A major limitation to academic literature about HT is the mass focus on programs in the United States. Fleming (2015) distinctively studied the impact of ‘veteran-to-farmer’ programs in the United States in a way which encapsulated nation-wide research findings that “the emergence of veteran to farmer programs reflects a multi-sector response to not only health and human services, but also agriculture, rehabilitation and mental health needs in the United States” (p.40).

The range of focus for findings has shown that some horticultural therapy initiatives can be analyzed in broader landscapes when dealing with larger and broadly distributed populations such as within Fleming’s (2015) ‘post-9/11 veteran’ population across many states in the U.S.

In addition to the earlier Korean example, four studies were of British context (Aldridge, Sempik (2002); Sempik (2010); Christie, et. al., (2016); Christie & Cole, (2017). Lai, Faan, Ho, Kwan, Fung, Mak, (2017) conducted a group study in Hong Kong which examined the effects of a twelve-week HT program on self-efficacy and quality of life of the participant adults living with intellectual disabilities. As is shown in the breadth and diversity of literature above, the utility, effectiveness, therapeutic benefits and diverse populations serviced through horticultural therapy are soundly researched in American, British and Asian contexts. There is an evident gap of literature from Canadian settings.

Toronto-based Horticultural Therapy Literature

The lack of local academic literature reinforces the need for relevant research to develop an understanding of Toronto’s contextual dynamics that nature-based wellness therapies could provide for our diverse communities. Urban community food programs that practice HT in their services is one subset of practice that holds relevance to Toronto’s grassroots organizational history. Seller, Fieldhouse and Phelan (1999) discussed the “attempt to offer horticultural activities to people with mental illness, within the framework of an inner-city community health

team” (p.291). Urban approaches to community allotment gardens in Toronto are discussed in Wekerle & Classens (2015), Viswanathan & Huang, D. (2016), Baker, L., & Huh, J. (2003). Fieldhouse (2003) conducted a qualitative interview and focus group process to develop understanding of how “clients attending a community mental health team horticultural allotment group described the importance that they attached to social contact in the group” (p. 286). As more urban-setting literature was found to be focused in on institutionalization and medical health agendas, this PRP will strive to attend to some gaps in literature by acknowledging horticultural therapy practices in local addiction services, community-based services, urban Indigenous and grassroots settings.

One such study that holds Toronto as its setting is Wekerle and Classen’s 2015 article which “addresses issues of access to land for food production in Toronto by offering fresh perspectives on urban agriculture in the neo-liberal city of the global north” (p.1175). Wekerle and Classen incorporated local interviews into their critical geography lens of urban agriculture and food activism. Their stance towards mezzo food production systems and local residents lacking land access does not tap into analysis of therapeutic features of horticulture. Such geo-political and property rights lens in relationship to community programs is a highly important notion relevant to non-profit initiatives but out of scope of this research.

Along with the lack of Canadian literature on horticultural therapy, there is a major gap in literature from therapeutic horticulture program participants. There is an abundance of visual materials, case studies, film interviews, audio interviews and written responses regarding experiences of this therapy but there is no longer-form literature. This could be a space where such writings could enhance the credibility or awareness of the successes and/or limitations of this therapy for service users.

Despite gaps in scholarly writings about horticultural therapy in Toronto, there are two comprehensive examples of community organizations releasing documents to support community-based gardening initiatives. The first example is *Growing Opportunities: A Social Service Agency's Guide to Garden Programming*, which was released by Evergreen in 2008. This document is a guide for social service agencies explaining how to initiate and develop community gardening programs. This guide also highlights diverse gardens in Toronto such as the Community Garden at Miziwe Biik Aboriginal Employment Services. The case study in Evergreen's Guide on Miziwe Biik acknowledges the Indigenous worldview used in the design of the space, the incorporation of elders as teachers to the garden users and the growing of traditional medicinal plants in the garden (2008, p.11). Also highlighting First Nations gardening in Toronto is Evergreen's document also providing a case study on the Native Men's Residence garden programming at Hillcrest Park where "each year, plants are harvested in a traditional manner, honouring local Anishinawbe and Haudenosaunee ceremonies" (2008, p.40). The practice of Indigenous ceremonies tied to food harvesting promote cyclical healing and wellness on a different continuum than that of therapeutic horticulture programs, yet could deliver similar therapeutic and restorative outcomes. It is important to acknowledge the differences and also highlight shared venues through which both native and settler populations are practicing direct initiatives of wellness through using the landscape.

This research paper recognizes the critical dynamics of supporting settler land-based community programming on colonized territories. This something that has not yet been acknowledged in horticultural therapy literature. Rice (2015), Hart, (2007), Simpson, (1998) and Waldram et. al. (2007) will be Indigenous scholarly authors resourced in the PRP to articulate the context of relationships between Indigenous worldview and deeper ecological social work.

The second local community organization providing a gardening and wellness publication Central Toronto Community Health Centres' 2013 guide titled *Let's Grow! Gardening Activities to Promote Mental Health, Healthy Eating and Physical Activity*. This guide holds relevance to my research as it focused on the process of cultivating therapeutic spaces. The guide specifically articulated that "programs that are focused on recreation and food security can offer therapeutic benefits, as much as programs explicitly focused on mental health promotion" (CTCHC, 2013, p.2). This argument is significant in that it expresses the value of community food-based programming.

My study will contribute to the existing literature by deepening the presence of ecological Theoretical frameworks in the academic literature about horticultural therapy and healing gardens.

Chapter 3: Design and Methods

As this project operated with a Deep Ecological theoretical framework, attempts were made to make space for diverse worldviews and practices of health, horticulture, foods and the meaning of connecting with such things for wellness. This practice-based research endeavor applied a Grounded Theory methodological approach, operating from an interpretivist paradigm (Glesne, 2011). The mode of research methodology was chiefly inspired by the literature and research principles of Kathy Charmaz. Charmaz's 2006 text *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*, which acted as an informative guide for gaining understanding about the research methodology processes. Charmaz attributed Glaser and Strauss as the founders of Grounded Theory methods in the late 1960s (Charmaz, 2006, p.5). Charmaz's journal publications also provided model resources on her style of analytic processing in Grounded Theory.

The research plan made use of the conceptual data analysis path outlined by Charmaz: the initial 'research problems and questions', then 'data collection – initial coding', 'focused coding', 'theoretical sampling', all whilst 'memo writing', additional sorting/integrating of memos, leading to further theoretical sampling and writing the first draft (1990, p.1168). The methodological plan was to use an inductive qualitative analysis of data in a revised grounded theory interpretivist paradigm to honour the experiences of the professionals being interviewed. The unit of analysis were individual respondents. For ethical considerations, the participants were professional service providers who had life and academic training to facilitate horticulture and therapeutic services. Due to the vulnerability of many populations whom access this type of programming, interviews were conducted outside of program times.

Due to the time and sample size constraints of the practice-based research paper

procedure, the Grounded Theory methodology used in this research was revised to have a smaller number of research participants (6) and a shorter timeframe for the analysis of the research data. Thus, the traditional GT concept of ‘saturation’ was not fully reached within the realm of this PRP. This offers space for future endeavours to conduct a broader outreach to attempt reaching more horticulture program coordinators and staff across the GTA.

Participation as an interviewee for this study was completely voluntary. Interview participants were recruited through email solicitation. A personalized email soliciting involvement was sent to each prospective participant regarding the specific horticulture wellness programming that they currently coordinate in Toronto. One participant was previously known to the researcher via professional networks. Other participants were recruited via snowball technique, that is, referred to the researcher by other participants. Of all responders to the invitation for participation email, one Horticultural Therapist declined. A total of six service providers participated. Interview participants were given a statement of what to do if they needed support during the interview which clarified that they were free to cancel the interview at any time during the process.

As the world of HT providers is well-knit and small in scale, the snowball effect occurred in all of the interviews, with recommendations and referrals to other potential interviewees. There was hope to be inclusive of the Indigenous component of horticulture practices in Toronto, however a meeting was unable to come to fruition during the timeframe of this research paper. Of the six participants, five identified as female, one as male. This ratio of majority female providers was expected, as is within the field of social work in Toronto. Five out of the six professionals were white, one person of colour. One interviewee was a fully-registered Horticultural Therapist as a member of the Canadian Horticultural Therapy Association. A

second interviewee was currently in-process of completing the requirements to become a registered Horticultural Therapist with the CHTA. She had completed academic training in Horticultural Therapy and thus identified as a Horticultural Therapist. A third interviewee also had completed significant education and diplomas in horticulture and HT. One participant was a Registered Social Worker. One participant held designation as a Registered Canadian Art Therapist. One participant completed a degree in Fine Arts, and one in Political Sciences. One exception to the participant recruitment process was the snowball recruitment of a current garden program coordinator who also held lived experience as a past participant in the same program as a youth. This exception also meant two individuals being interviewed were from the same garden site. It was however an important opportunity to hear the unique perspectives offered from the professional whom also held lived experience as a past participant. The participant with life experience of the programming came to be involved in the project through the snowball method of referral by the other interviewee who was contacted prior.

Once the prospective interviewees agreed via email, meetings were scheduled to accommodate a 45-minute audio-recorded interview. The interview question guide and informed consent confidentiality agreement were sent prior to the interview to allow time for the participants to reflect upon the questions. Informed consent forms were introduced early on to participants after they confirmed via email that they were interested in participating.

All but one of the interviews took place at the program site of the interview participants. As the interviews took place between late winter and early spring, the gardens themselves were in their winter hibernation stage. That being said, it was articulated by several of the participants that they offered outdoor winter programming use of the spaces, particularly for engaging with local wildlife that exists on the sites during winter, such as white-tailed deer, songbirds,

raccoons. Being present in the program sites during the interviews offered visual cues for participants to point out their program spaces and featured objects. In hindsight and if the research process had permitted, the interviews would have been done during the growing or harvest season in order to have a deeper interaction with the spaces during the interview process. This may have elucidated more examples of programming dynamics of phenomena observed with participants.

The interview questions guide (see Appendix B) was composed of six main questions, each with additional probes if needed. The guide was reviewed after the first two interviews but did not undergo any restructuring. Due to the nature of the open questions being asked, interviewees were given space to narrate their experiences as horticulture program providers. As the nature of their sector of programming in their work locations often holds strong holistic health and environmental perspectives, questions from the interview guide were often interconnected and answered naturally. Thus, the guide was used as a reference tool to ensure certain topics had not been covered. Since HT is not fully regulated, interviewees were asked about their organisation position and certifications related to their horticulture work in order to grasp the range of professionals that are operating HT-type programs in Toronto.

The data collected from the semi-structured interviews with program facilitators was transcribed from audio files into textual format. The researcher conducted the transcriptions. The interviews were audio-recorded with a digital audio recorder. The interview audio files were destroyed once the data was completely transcribed. Textual data and documents will be stored for two years, as described on the consent forms.

After the data collection period, an inductive qualitative analysis of the interview transcript text data was conducted to initiate process of developing a theory grounded from the

data. The themes analyzed from the six semi-structured interviews articulated participants' subjective interpretations, observations and experiences of facilitating their programming. Interview questions focused on dynamics that HT service providers take on and define as they develop, coordinate and facilitate horticultural therapy programming for specific populations in Toronto.

The process of analysis to move from data into findings followed Charmaz's Grounded Theory styling, with additional revisions to suit the nature of a practice-based research paper. Charmaz coined coding as the 'bones of analysis' (2006, p.45). Coding stages and refining themes were used as the structural skeleton for the analysis of this research endeavour. Charmaz explained coding as "categorizing segments of data with a short name that simultaneously summarizes and accounts for each piece of data" (2006, p.43). The researcher used line-by-line coding and marginal memo writing as an initial stage of categorizing the interview data. Data transcriptions, coding and diagrams were all constructed with Microsoft Word and by hand.

Next, the researcher used Charmaz's method of focusing on gerunds in the data to highlight the processes and actions that interviewees communicated about horticulture within the transcriptions. This was done in a purposeful, focused method, to gain understanding of how horticulture is acted out in therapeutic ways in Toronto. The hopes with this step was to help textually illustrate what it is that people do when they are participating in HT, therapeutic gardens and healing gardens. This was an attempt to diversify the stereotypes and oversimplification that HT is solely 'planting things and being happy doing it'. The focused gerund coding extracted 140 gerunds and gerund phrases that described the astonishing diversity of processes, activities and actions that take place within and as a result of therapeutic

horticulture programs. The codes can be seen in Table 2, in alphabetical order for easier navigation and exploration of the processes. This table could be used by professionals as a reference tool for describing and reflecting upon the nature of HT in Toronto. The list of gerunds and gerund phrases shows processes amongst services users, between service users and the land/wildlife, between service users and service providers, between service providers and the land/wildlife, and between the programs and the greater community. Charmaz suggested that “renewed emphasis on actions and processes, not on individuals, as a strategy in constructing theory and moving beyond categorizing types of individuals” (2006, p.136). The focus of this research paper was not heavily on the providers themselves as individuals, but of the work they do, how it is done and what role does the impact of work play in our broader social and deep ecological communities.

The research also combined features from Aurini, Heath and Howell’s coding processes (2016, p. 194) which endorse coding options that look into participant’s assessments, causation statements and frequency (duration, regularity, commonality) statements. These codes were identified to gain understanding of the assets of the themes across HT in Toronto. The use of GT analysis through coding therefore built theory and identified provider themes from diverse but therapeutically interrelated practice environments. Charmaz’s 2006 text *Constructing Grounded Theory* offered a process guide for my initial, line-by-line, axial, theoretical coding methods, revisions and theory building. Categorization (see Aurini et al., 2016, p.195) was used to arrange codes in to broader classifications. This started the outlines of the themes appearing from the transcript data.

The gerund activity through patterned coding an additionally a population (service users) focused code extraction stage offered new code sets to cross-refer dynamics that participants

expressed about their work experience during the interviews. This populations circle graph (see appendices) constructed with the lists of identified programs for specific populations will act as an important starting point for further research endeavors that could identify gaps in populations that are not receiving horticultural therapy by Toronto's diverse health and care organizations. Axial coding was also used prior to the end of the coding process in order to "link categories with subcategories, and ask why they are related" (Charmaz, 2006, p.61). This was a beneficial process for juggling the realities that several different programs may all be engaging in horticulture, yet all operating from different service frameworks.

In consideration of the use of GT methodology within critical social work, additional GT studies acted as inspiring resources to guide my research (Draucker et. al., (2014), Happ and Kagan (2001), Sbaraini et al., (2011), Chih-shen Owen Lo, (2014). The implications from this GT study will be discussed in the context of this research literature in the final chapter.

Chapter 4: Findings and Central Themes

Facilitating Horticulture Programs: Service Provider Experience and Certifications

As discussed in the previous chapter, the service providers interviewed for this research achieved significant and diverse degrees and field training certifications. To reiterate, the six service providers interviewed will be referred to in the following manner: The fee-for-service Horticultural Therapist (Interviewee A) working with Long-Term Care homes and other community centres; the Registered Social Worker, Clinical Supervisor of the Education and Therapeutic Program (Interviewee B) working for a children's mental health organization; the Enabling Garden Coordinator (Interviewee C), trained in HT and working for an environmental conservancy organization; the Senior Coordinator of the Recreational Therapeutic Garden (Interviewee D) trained in HT and working for a mental health hospital program; the Garden Program Creative Coordinator (Interviewee E) and the Project Lead Site Coordinator (Interviewee F), both working with a rehabilitation hospital. Each service provider's combination of academic provenance and personal passion for their work broadens the possibilities for the breadth and depth of therapeutic horticulture programming in Toronto. The themes extracted out of their interviews represent where their education, interests and perspectives on horticulture for wellness shape their programs and interactions with service users.

The field of Horticultural Therapy in Canada is not federally or provincially regulated through a formal college or licensing system, and professional recognition is often gained by completing a voluntary registration process through the Canadian Horticultural Therapy Association. Two service providers who participated in the interview process were registered or in-process of registration with the CHTA. Three of the six service providers interviewed had

received academic training in Horticultural Therapy. All of the service providers completed post-secondary education. One service provider was a Registered Social Worker. The interviewees also held degrees in Education, Psychology, Political Science, English, Landscape Design, Horticulture, Diplomas in Art Therapy, Fine Arts, and various certificates received through Horticultural Therapy education. Two of the service providers communicated that life-long personal interest in gardening was a significant propellant to their work as Horticultural Therapists. The academic knowledge and trainings that the service providers carried enriched the ways through which horticulture is practiced for therapeutic benefits across Toronto. The following table is a simplified overview of each interviewee's framing of their work as expressed during the interview. The table below shows the diversity in how garden-based programs designed for wellness fall into or away from labelling as Horticultural Therapy.

Overview of Organizational Settings, Program Models, and Stance on using terminology of HT

Program	Program Model	Therapy Framework	Uses terms TH/HT
A) Community / LTC HT program Developer	Therapeutic	Yes	Yes
B) Children's Mental Health Organization	Education & Therapeutic	Yes, clinical therapy practiced but refraining from identifying as HT out of respect for distinct registration process	No
C) Environmental Conservancy Organization	Enabling Garden	Yes	Yes
D) Mental Health Hospital	Recreational Therapeutic Garden	Yes. Conducts evaluations, participant surveys but not formal charting.	Yes
E/F) Rehabilitation Hospital	Arts and Play-based Garden. Growth and asset model of resilience.	Acknowledges therapeutic benefit whilst critical stance of operating outside of a formal therapy framework.	No

Horticulture Programs and Logistic Organizational Values Towards Measured, ‘Therapy’ Models

The interview data analysis found that the organizational frameworks within which people worked themselves shaped how the horticultural programming could be provided to participants. The providers who identified as having education or registration in Horticultural Therapy referred to their work as Horticultural Therapy. There was important variation from providers who did not self-reference their work to fall within a traditional, clinical ‘therapy’ model. For example, Interviewee E noted that their programming already occurs in a heavily clinical rehabilitation hospital environment and thus they emphasized the need for providing arts, and play-based garden programming with a mindset of resilience, working with the children’s assets and providing space for growth and experience. Interviewee E commented on her program’s shift to acknowledge the therapeutic benefits of the programming, but to not call it ‘therapy’ or to consider her patients needing ‘healing’. Interviewee E asserted:

There’s a notion that if there is this language about healing, that there is a deficit to start with. I think we don’t start from that deficit point now. We start from more of a growth mindset and an asset mindset. And so, unless a child might bring that up, we’re not averse to problems, we’re not averse to challenges, conflict or complexity. We just start from a different view set; but it’s a healthy place.

Interviewee F, a former participant in the program and now a coordinator of the program, added:

[The program] is on the grounds of a hospital and many of the kids, especially the kids who have more complex needs, are so often dealing with health professionals, doctors and therapists. And so, when they’re outside, we’re happy to provide a space that doesn’t explicitly deal with those things and is more open to what they can do and what they want to do.

Interviewees E and F both talked about programming which works with the strengths, interests and motivations that their clients bring into the setting in a monitored but in a freer atmosphere that does not measure charted changes through a classic healing therapy agenda. The notion that their program often occurs outside of the walls of the hospital, along the green fields and treed

greenspaces along the property, suggested that there is a physical removal from the clinical atmosphere of the hospital itself, in a way that offers benefits.

In contrast, Interviewee A came closer to essentializing horticultural practice as a therapy through a classic therapy model. Interviewee A is a registered Horticultural Therapist who practices HT in long-term care facilities and other community-based settings. This horticultural therapist explained the structure of formal HT as a planned, deliberate, and documented and goal-oriented service. She further articulated how HT can be considered a therapy as follows:

A definition is, I would say, using plants, plant-related projects and connecting nature to improve quality of life in all the domains; physical, cognitive, emotional, spiritual... To be technically therapeutic, it would be working with clients that are in a clinical setting, that have a diagnosis and therefore a care plan. Our connection is the documentation to the care plan.

Interviewees C and D also named their work as Horticultural Therapy. Interviewee C articulated her explanation of HT as “the use of plants and the land to promote wellness of mind, body, and spirit.” As the overarching organization which operates the garden is within the field of environment conservation, one may note less of a clinical, medical model atmosphere to the setting. This also translates in this case to less of a clinical, medical model in the HT.

Interviewee C articulated during her explanation of her enabling garden as a space of accessibility from a disabilities perspective, that one of her programming objectives is: “to make nature accessible to people, regardless of ability...so, my overarching goal was to bring people here to connect, in whatever way, because it helps mind, body and spirit”. This holistic and disability rights vision echoes some of the critical rights that Interviewees E and F held in the vision of their garden program.

The facilitator of the mental health hospital recreational therapeutic garden holds extensive training in HT. She articulated that her program’s objectives are to improve food

literacy and security, to increase people's access to and consumption of vegetables and fruit, to build transferable skills, and to build a healthier community and environment. Her multifaceted objectives provide a reminder of the practical skills and health benefits found from the process of tending and engaging with plants. She brings attention to the fundamentality of horticulture as a method for local food resources production and food security. Interviewee D also discussed the medical institutional setting that hosts her programming. She noted the facets of baseline health surveying, impact evaluations and informal check-ins which help to guide observations on participant progress but are not formally charted onto medical records. As with the other programs interviewed, Interviewee D discussed a holistic view of what her programming offers, which will be discussed in later theme analyses.

Interviewee B held commonalities with both Interviewees E and F's distinction of not using the term Horticultural Therapy in her work, yet also facilitates her garden program within a clinical therapy structure as seen within Interviewees A, C and D. Interviewee B distinguished the field of HT as distinct from her training and thus does not appropriate the term. She commented that since she holds experience in social work, psychology, and art therapy, her work within the garden to falls under those auspices. Interviewee B said that a core drive for her therapeutic outdoor garden work with individuals, families and groups is that "it might free them up to just be in a natural setting that's less office-like, and they can sometimes feel more open to share in a natural way as opposed to a prescribed way as we think they should". Again, this is a form of critical social work practice, to offer a space for client and service provider to engage in therapeutic process through a less 'prescribed' manner as experienced in a clinical or medical counselling room. Interviewee B also noted that using a 'typical CBT approach' in an outdoor setting or with environment-based metaphors as a way of incorporating clinical counselling

methods into her horticultural work with clients at a children's mental health organisation.

The analysis of the interview transcripts shed light on how nature of the organization interlaced with the program worker's education and training perspective led to different uses of horticulture in health and wellness programs. The term Horticultural Therapy holds a standard therapy meaning in clinical environments yet can also enable holistic and widespread facets to witness participant progress.

The Diversity of Populations that Horticultural Wellness Programming Reaches across Toronto

The interview process discovered that even more diverse than the settings that therapeutic horticulture programs occur in, is the diversity of groups across Toronto who access specifically-outfitted horticultural programming to meet and support their needs and interests. As seen in the circular diagram (Appendix D) the interviewees shared information of at least twenty-two populations that are accessing specifically-designed horticultural programs for therapeutic purposes. The age range of program participants were from ages 0-95. Some programming explicitly caters to youth, including in the rehab hospital, environmental organization, and the children's mental health organization. Adult-specific horticultural programming occurred in the mental health hospital. Two of the interviewees offered programming designed for seniors as participants. Two of the interviewees offered programming for survivors of stroke. One interviewee noted specifically of an addictions recovery perspective within their horticulture program. One interviewee noted horticulture programming for Indigenous youth in their organization which operates within an Indigenous worldview. Other known horticulture programs with therapeutic components in Toronto provided by First Nations organizations were contacted for interviewing, however there was no opportunity to meet during the timeframe of this research process.

A remarkable finding was two programming structures that bridged gaps between populations. The rehab hospital offered summer programming for youth with and without special needs. Interviewee F explained that “one reason we run [the program] is to encourage interactions between people and kids that may not otherwise interact”. Interviewee E added that “doing things together, not forcing anyone to be friends, but divide labour, share tasks, act as a community”. This is a space where stigma and isolation are truly met with opportunity for social connectivity and learning from others.

The analysis process also found that there are commonly-served populations with specific therapeutic horticulture programming offered by the interviewees. Three of the interviewees offered garden programs specific for people with physical disability. Trauma and grief work was another significant programming target group for HT programs. Three of the five settings offered trauma-specific programs. The connections between HT and trauma / grief work will be explored later. All of the interviewees noted that they offer services in their horticulture programming for people of diverse age groups with cognitive impairment and mental health challenges.

There is a strong pattern of HT in Toronto having a healthcare setting as an underpinning for operation. Five out of the six professionals interviewed are working in a ‘care’ landscape. This points to the notion that there are gaps in service environments that HT could be offered in Toronto. Interviewee D commented on this as she stated “I think focusing on Toronto, there’s a lot of scope to do more than we are doing”. Interviewee A commented upon introductions that “there’s a lot of Horticultural Therapy in Toronto that’s not called Horticultural Therapy”. This may be partially linked with the lack of government regulation or mandatory registration of the therapy, but may also be linked to the limited research and

publishing of the therapy's breadth and diverse perspectives of therapeutic stance.

Theme: Program Adaptations to the Landscape and Setting of the Program

In an effort to further understand how the broader use of horticulture for therapeutic purposes is set up in Toronto, I included questions regarding the topography on which the programs are practiced. The interviewees discussed how they developed and operate a therapeutic agenda directly via Toronto's post-industrial landscape. Undoubtedly, all of the professionals explained activities and programs that operated indoors or with contained gardens. Nevertheless, the core philosophy of HT is ancestrally rooted in the earth around us. Individually or collectively experiencing the connectivity and grounding of nurturing gardens, the soil, digging, planting and harvesting from our surrounding landscape.

All interviewees shared the story of their gardens: the history on how the gardens were built and what influenced their creation. Interviewee E discussed 'the lore of the garden'. This alluded to how the garden settings become lived and storied spaces, spaces of local culture and local characters. Seasons and wildlife come and go, impacting the cultures and dynamics of how humans make use of the setting. The topography itself can be a problem or a blessing for building a garden program. This was noted by Interviewee D, who noted that the soils of her garden space were located in an urban, downtown space and needed remediation and organic compost to be rehabilitated for foodplant production. This finding is a reminder that our urban soils are not always safe or conditioned for producing foods. Interviewee D also noted that the hills in her garden space, manufactured landscaping with soils from the construction on the property, were mediated by introducing terraced gardens dug out and shaped into the hills. She explained that the hills are also mediated through providing raised planter boxes, for all participants to have accessible and reachable gardening opportunities. Interviewee D added that

the hills and terrace actually promote the atmosphere of the space, creating an amphitheatre-like focus.

Interviewee A remarked that the way in which an organization uses their pre-existing gardens can inhibit or an initiate horticultural therapy programming. Interviewee A, who developed several HT programs in long-term care facilities across Toronto, noted that many LTC home facilities may have designed and built wonderful landscaped gardens around their buildings, but have not engaged with the gardens for purposes of therapeutic process. She expressed that “new facilities are built with lovely gardens, but without HT programming, the gardens are not being used, just passively enjoyed. To activate people into using the gardens, HT programming is so important”. This is a critical point to spaces that would like to offer plant or nature-based therapies for their service users. Any green space or pre-existing garden plot can be engaged with through HT.

Interviewee B noted that her organization’s geographic location next to a busy road led to a project of planting cedar hedges as a natural fence around the children’s gardening space. This provided not only a sound and visual barrier, was noted by the therapist that it was their first initiative to make the garden feel safer for the children who use the space.

Water, Grief & Loss: Therapeutic Use of Natural Waterways in Garden Sites

The use of natural waterways on program sites for grief and loss was a strong finding in the interview analysis. Participant experiences with death, early life trauma, event trauma and grieving were symbolically processed through the waves of our watersheds. Three out of five program sites interviewed held natural watercourses through their properties. The service providers developed programming to incorporate the creeks and river.

Interviewee B, of the children’s mental health organisation, noted that the natural

topography of her program site offers a unique component of her grief counselling with clients. She explained how the creek that runs behind the building is incorporated into sessions with kids who have had trauma and loss, as she facilitates an activity with a paper origami boat. The child will write down things they are working on with their feelings and thoughts that they are carrying. The therapist and the child will conduct a ceremony of 'letting go' by watching the paper boat float away, down the stream along with the thought and feelings the child was carrying internally.

In addition, Interviewee C, the Horticultural Therapist working with an environmental organisation shared an example of how she worked in the use of water for processing grief and loss during her therapy programs when one of her program participants had passed on. In support of the grieving fellow group members, the therapist conducted a rock-painting ceremony, where each member painted a wish or memorial statement into the rock using watercolour paints. They then picked a tree on the garden site to commemorate their fellow participant. The group each placed their rock in a circle around the tree. They then ceremonially watered the rocks around the tree. Their watering can washed the watercolour paints away, soaking into the tree:

The tree was living the wish, and they come back every year. They know that's their tree. The rocks are still there, and there's nothing on the rocks as they've been rained on. And so, they didn't take from the environment, but they gave. And the tree gave to the person's spirit as they moved on

This beautiful example of participants honoring a fellow group member using the garden's resources shows how important therapeutic group connections can become. Interviewee D also answered that her women's trauma group also symbolically makes use of the flowing movement of the river on-site of the urban conservation property to decree 'letting go'.

The Dialectic Melody of Life and Death in a Therapeutic Garden

In addition to the use of water as a method of processing emotional pain, the theme of burying as a therapeutic ritual in horticulture emerged through the interviews. Interviewees discussed the phenomena of plants being used to nurture and sustain wellness, as well as to commemorate and process feelings around the human relationship around death of other living things. While discussing the wildlife that visits the garden on the rehab hospital property, Interviewee F noted the fox, snakes, rabbits and birds that make appearances during their program time. He also explained an incident where the children in the garden program found a dead bird, and wanted to respectfully honour it by holding a little ceremony and burying it. It is an activity where the kids can learn about respecting other creatures. In that program's rehab hospital setting, as because of the nature of the hospital, patients do pass away. Interviewee E affirmed that the benefit of their program within their model of resilience is to make the garden a 'space of living'.

Interviewee B explained her use of metaphors in her gardening and traumatic stress therapy work. She explained: "there's a connection between burying things and things growing; and planting things and hope...thinking about metaphors for growth, using plants". These remarkable interpretations show the depths to which HT can be put into practice as a complementary accompaniment to many other forms of psychotherapy. Depending on the needs of the population, or the circumstances that come to be during program, undercurrents of talking about life and death can be symbolically shaped to meet group styles and processed with HT.

Facilitating Direct Engagement with the Local Environment to Convey Holistic Wellness

A crucial question during the interview process asked how the topic wellness arose in the interviewees' programming. As a subquestion to this, I asked what types of physical

activities participants engaged in during the programs that connect to wellness. The interviews shed light to an array of physical activities participants engage in throughout the programming which connect to physical exercise, strengths building, self-confidence, adaptability, task-sharing, learning to connect with self and others, sensory attunement, reducing trauma symptoms, all in addition to the taken-for-granted nutritional benefits of practicing horticulture. Appendix D, Table 2 contains the interview code summary table, highlighting extracted data codes that elude to each provider's statements about their program's features of horticultural activities that engage for wellness.

Providers articulated that the fundamental action of having contact with soil was an underlying transaction between person and the environment in HT. Interviewee E responded when describing her site location for the rehab hospital garden, that "it's not just about resilience when being outside, it's about joy, freedom, connectivity, as simple as getting dirty, getting messy, getting wet, being in the sand". With added consideration, Interviewee A noted how her work in LTC develops activities that are trying to provide exercise for "a wide range of physical and cognitive skills and especially enhance social interaction. The activities hopefully provide stimulation for all the senses: colour, texture, scents, tastes, smells, sometimes even sounds". Interviewees B and C, also discussed sensory attunement as a strong component of therapy with the elderly, and individuals with dementia, cognitive impairment, stroke survivors, and others.

Connectedness as Guiding Principle in Toronto's Horticultural Wellness Programming:

From this interplay of giving and receiving stimulation and attunement with the environment through horticulture comes the broad theme of *connectedness* as a by-product of horticulture wellness activities. 'Connection' was a recurring concept as a component for wellness of health and was present in all of the interviews.

Goals of achieving biopsychosocial and even spiritual connection with self, other people, plants, and the wider environment were found across all of the interviews. Connection was expressed through activities that engaged the body, including learning nature-based coping skills, processing emotions, improving self-nutrition, discovery of one's interests, and, ultimately, connection with the self. Interviewee D explained the need for a connection with the larger organization and community. The Horticultural Therapist explained that her program offers participants who are socially withdrawn opportunity to develop camaraderie: "there's a huge team spirit. It's very important for people and offers social connection". Furthermore, Interviewee D noted that her program's sales of vegetables produced in-program through a vegetable market booth provides "positive interaction, showing the community that has been grown on institutional lands, and it's part of breaking down that stigma as well, because they're very proud of what they've done".

As mentioned earlier in discussion of the 'lore of the garden', each garden develops a microculture among the mini ecosystem that develops (including the people who tend it). The service providers explained connectedness with environment and local ecologies of wildlife, through participants observing, knowing the species, naming them, talking about them, and caring about them. For example, Interviewee D explained her program received a special grant for planting native plants within her gardens. The native plants also attract pollinators and result in benefits for the gardeners as well. She explained that "we definitely talk about the wildlife" throughout her HT. Interviewees E and F shared a story of their past programming activity of conducting nature walks with kids along the creek. The groundhog and the skunk on the property received a comical reputation with the child participants.

Similarly, Interviewee C includes a simple activity of mindfulness through spending

focused time in an undeveloped space. She calls the activity with her stroke recovery group ‘nature sitting’ and explained it as “fifteen minutes of no talking, just sitting and allowing whatever sounds, senses to come in. And then, we talk about it. Participants had started to talk more openly and emotionally, and they had requested that we always start sessions with that”.

The children’s mental health organisation program coordinator explained her notion of ‘connecting’ within her programs as a strong point about her parent-child therapy sessions. She noted that the joint sessions offer a chance for the child to teach the parent about getting back into having fun together. She also explained that at times it is an opportunity for the parent to teach the child what they learned as a kid about plants and garden knowledge.

Horticultural Programs and Food Production: Bringing People and Cultures together

The theme of food and wellness recurred throughout all of the interviews. The activities of seeding, planting, tending, gathering, harvesting, cooking, preserving, and sharing appeared within the programs of all the service providers. The activities can be performed individually but the notion of group work and pairs activities was important for encouraging cohesiveness, sharing and social integration for the groups in HT programs. Interviewee A explained how her work in LTC residences can connect with the site kitchens. HT program participants can grow the vegetables that they are capable of eating and bringing them into the kitchen for processing in a way that meets their own needs.

All of the interviewees expressed the notion that gardening food brings people and cultures together. Interviewee C’s enabling garden model is based on the notion of making gardens and nature accessible for all. She explained that “food is a real bridge. It brings people together and holds people together”. She further explained the information-exchange which occurs when diverse groups come together to and open discussion about their knowledges of

plants.

Locally Resourcing Nature

The program staff from the rehab hospital explained how the natural wild food and material resources available on their program site can be sustainably and responsibly accessed for their children's garden programming. For example, the willow trees are quick growers that can be trimmed for introducing basketry workshops, thus offering traditional crafts and dexterity exercises for their participants. Interviewees E and F mentioned that the mulberry and pear trees growing wild on their program site offer seasonal accessible food to integrate into their agenda. In contrast, interviewee C noted that her organization is within the field of environment conservation, and therefore the natural landscape is preserved for the purposes of the conservancy. Interviewee C's Horticultural Therapy program participants also engage with wildlife through the feeding and watching of birds. Some of her program participants practice responsibility, build connection and ownership with the understanding that they are responsible for feeding wild songbirds during winter. Whether actively building habitats or entrenching relationships with surrounding wildlife, there are ways to include both into horticulture programs year-round.

Seeing Plants as Medicine within Therapeutic Horticulture Programs

Overall, the interviewees steer away from the referencing to plants as medicinal within their programming. There may be casual referencing to what an herb could have traditionally been used by in the past, but several providers articulated that they are not referrers or recommending herbs or plants for medicinal use. There was mention of awareness to the reality that many participants may be already taking medications that could be interactive with herbal medicines.

An important finding with two of the garden sites was the providers explaining that they

are not permitted to grow tobacco within their programming. For sites like that of Interviewee D whom operate programming for First Nations participants within an Indigenous worldview, the tradition of growing tobacco often seen as a crucial component to the holistic traditions practiced within the region. It became clear that although the programming makes many efforts to have spaces and services for practicing First Nations traditions and teachings within the therapeutic horticulture programs, there is still prejudiced understandings that hinder the growing of ceremonial tobacco plants for community program uses in certain circumstances. Further research could identify such policies.

One finding regarding the healing benefits of plants in-program was that scents are considered a common way of using plants for healing. For example, the smell of lavender was reported by three of the interviewees as a commonly used herb for aromatherapeutic activities in their HT programming. Other activities like potpourri-making, lip balm-making and some teas were commonly expressed as safer methods of using plants for therapeutic benefit.

Interviewee remarks on working within the urban context of metropolitan Toronto

When inquiring about provider's experience with urban metropolitan context of Toronto as their work landscape, all interviewees responded with examples of how they bear witness to diverse worldviews of health and spirituality while doing community and clinical horticulture programming in Toronto. Interviewees E and F remarked that diverse heritages of staff and participants offer many opportunities for sharing and learning about tradition around food and gardening knowledge, especially when their programming integrates cooking into program sessions. Interviewee A remarked that she considers peoples' diversity when planning each garden, so she encourages participants to reflect on what types of plants or vegetables they would like to grow.

In regard to Toronto's ongoing urban development and high population density within high-rise communities, Interviewee B noted that she often works with participants who want to take plants home and grow on balconies. They discuss how to 'harden-off' plants to be able to grow on balconies with high wind and sun. Interviewee C uses similar moments to metaphorically teach plant-handling awareness through reflecting on how we hold our own bodies during pre-gardening stretching activities. The theme of Toronto's urban youth was a strong theme for Interviewee C. She noted her observation of youth who have not had opportunity to interact with horticulture or the outdoors in a therapeutic manner. She remarked that "it's really worrying. Chronic disconnection and not knowing 'how to be' in a natural environment". This was similarly echoed by Interviewee A. Three of the interviewees noted Richard Louv's 2005 book about 'Nature Deficit Disorder'. This is perhaps a space for further research. As the city of Toronto continues to densify and increase the presence of high rises without access to green spaces, there is perhaps further research to undertake on the practice of Horticultural Therapy with urban, nature-deficit populations.

Year-long horticultural programming in a temperate climate

The professionals all acknowledged that their horticulture programming took place throughout the entire year and that they have adapted activities to engage in during winter months. They all included details about ways through which they can extend the growing season in Toronto's temperate climate. Interviewee D's program with the mental health hospital hosts a greenhouse which operates as their winter program site. Interviewees A and B noted that they make use of indoor plant and seedling growing lights which can produce sprouts and small edibles all year-long. As explained earlier, interviewee C engages winter programming that teaches about the winter wildlife on the property. She also shared an example of how crafting

scarves can become a component of the horticulture programming, practicing motor skills with weaving or knitting and using life skills discussions to talk with participants about keeping warm and bundled up while practicing horticulture or nature therapies in cooler weather. Interviewee B includes discussion of winter wildlife life cycles into her counselling and therapy discussions.

‘Creating an Oasis’

Horticultural Therapy and programs using horticulture for wellness have a unique spinoff for the wider community: the creation of beautiful greenspaces. In some cases, like the mental health hospital in a heavy urban setting, the garden space is a prime location for relaxation and shade. The coordinator of this garden site, Interviewee D, explained: “we’ve basically created an oasis there and people seem endlessly fascinated with what we’re growing, so there’s a greater connection to the [site] community”. Interviewee D explained described her site as “we are a little oasis, in the middle of an urban environment. Most participants I would say, come from a specifically urban-suburban environment”. Interviewee F described the beauty of the rehabilitation hospital garden site during summer. He described that “it’s all covered with trees...When you’re in the garden, it’s quite secluded. It’s its own space, even though it’s not walled per se. You forget that you’re on the grounds of a hospital quite often”. These examples showcase the critical benefit of providing the feeling of sanctuary away from the institutional regimes that patients and participants take on during their time in-care. Three of the service providers used the term *oasis* as a descriptor of their garden spaces.

Not only did interviewees explain their sites as sanctuary for the participants or wider community, but also for the staff of the organizations. Interviewee B mentioned her site’s ‘memory orchard’ consisting of fruit trees that were planted for staff members of the organization that have passed on. In addition, a bench within the garden was installed and

commemorated for a staff member who passed on. Thus, the garden site can also act as an organizational therapeutic oasis for honouring and grieving for staff. Interviewee D explained that the picnic tables and benches provide space for staff to have lunch and spend time visiting the gardens and engage in discussion about the gardens with participants.

From a different perspective, the coordinator of the mental health hospital gardens noted that her space is not fenced off, as there is already enough fencing on the site. Keeping the gardens barrier-free is also a way of not inhibiting the wider hospital community from coming to enjoy the space in a respectful way.

Barriers for Facilitating Horticulture Programs in Toronto

The most common example reported as a barrier to programming for service providers was funding. In consideration of the frontline engagement with the landscape that occurs in horticulture wellness programs, some challenges were noted by interviewees that come from the environment itself. Climate change was noted by four of the interviewees as an observation throughout their years of work. They noted the increased number of days where heat risks prevented their programs from operating outside. Interviewees acknowledge their organizational responsibility to ensure the safety of their participants during Toronto's notorious heat waves. Also mentioned by interviewees B, E, and F as an unremitting task with garden landscapes was the of pulling weeds in gardens. In relationship to the heat brought with climate change in Toronto is the risks for drought. The support from volunteers, staff and participants all were noted as part of the team needed to keep gardens healthy.

Interviewee A noted that more than anything, the recognition of the profession of Horticultural Therapists is crucial for more institutions to see HT as a potential benefit for their service users. She also noted the difference between the United States' inclusion of HT degrees in universities, which do not yet exist in Canada.

Chapter 5: Conclusions

The analysis of the interview data found significant diversity of populations that horticultural wellness programming reaches across Toronto. At least twenty-two populations were mentioned as target groups with specifically-designed horticulture programs. The extensive age-range (0-95) of participants accessing horticulture programs for wellness and therapy highlights the adaptability of the program for people of diverse needs and abilities.

The interviews found that adaptability is also evident in the year-long horticultural programming available in Toronto's temperate climate. Horticulture programs have been designed to be provided both indoors and outdoors during all seasons, with harvesting and planting times as peaks for tradition-building within programs. A strong theme expressed by service providers was that connectedness is guiding principle in Toronto's horticultural wellness programming. This linked to strong themes of food production in horticulture and its power of bringing people and cultures together in Toronto's metropolitan environment. An additional theme that providers expressed was how their work in an urban, institutional, and hospital settings enables the creation of what they referred to as natural oases.

Service providers interviewed who use horticulture and nature in their work at a range of organisations and institutions hold varied stances on their work. Several offered critical perspectives that distanced them from identifying their work as a therapy program. The practice of horticulture as a complement to other physical or psychotherapy models was alluded in several circumstances. The therapeutic use of natural waterways that run through garden sites is a strong practice in Toronto's landscape. The sensitivity of trauma, grief counselling, and psychotherapeutic processing of life and death also has a significant presence of processing within Toronto's therapeutic garden programming.

In a different light, the providers commented on the character and lore of the gardens as a phenomenon which brings meaning, story, dynamic and relationship the garden as a place. The connections with wildlife, topography, water and natural resources that are developed through horticultural programs in Toronto was described as offering groundedness, mindfulness and new environmental associations for program participants. The microcultures and storied landscapes arising within gardens were shown to entrench the bonds and connectedness that participants held with the gardens and fellow participants.

The interviewees described their ongoing dynamic transactional work relationship with the landscape and climate. The cyclical transitions of weather, seasons, and natural garden processes implicate ongoing programming opportunities to incorporate in both the indoor and outdoor horticulture wellness programs.

The findings show that the participants communicated observations and work experiences that echo the axiology of a Deep Ecology perspective. Interviewee B's example of therapy work with a program participant that uses feeding wild birds during winter time and discussion the responsibilities of care for self, others and worth of even the littlest of songbirds echoes Besthorn and Canda's note of the axiology of Deep Ecology as 'human responsibility' and "reverence for nature". Again, with songbirds as an allegory, the story from Interviewee E and F of the children in their garden program who wanted to honour the life of a dead bird they found. The program workers helped to facilitate a quaint little burial and ceremony for the bird, offering a respectful honouring for the life it had. This charming story echoes the principle of 'deep empathy' as a principle of epistemology in Deep Ecology (Besthorn & Canda, 2008, p.85).

The care, reverence, and transactional relationships that therapeutic horticulture programs enact with the landscape create a tactile platform for practicing clinical, casual, or structured

therapeutic services. As with the multifaceted theme of ‘connectedness’ that arose through analysis of the data, horticulture is acting as a community mediator in Toronto. As Interviewee D stated, the gardens and HT offered in the urban mental health hospital are breaking down the stigma of what institutional lands can be, and importantly, initiating engagement between program participants and the local community through farmer’s market interactions.

The populations identified in this research endeavour as potentially benefiting from horticultural and nature-based programming expand upon the list currently available in the reviewed literature. Examples of other trauma-specific programs occurred in the school-based and trauma-informed HT programming (Trauth, 2017). These findings suggest that individual trauma work and women’s trauma group programming are solid practices in Toronto. Several group-specific programs like the post-stroke, youth-at-risk, mental health patients, dementia and senior’s groups were well represented within other academic articles. The existence of Interviewee C’s horticultural therapy partnership with a youth Indigenous program, operating within an Indigenous worldview, was the first example of an HT Service articulated as a partnership between HT as a therapy and a First Nations worldview I had encountered. Other First Nations programming is available in the city of Toronto that uses horticulture and gardening with therapeutic or healing motives, but often holds distinct operational models from HT.

Based on the interview research and literature review, it has been found that many populations gaps exist for the field of HT. There are many opportunities for developing programming to meet the needs for specific populations within our city. For example, Rice & Remy’s article discussing the impact of horticultural therapy on psychosocial functioning among urban jail inmates in the United States (1998) identifies one of the many institutionalized groups in the GTA that are lacking environment-based wellness.

The gerund coding stage conducted with this research paper (see Appendices, Table 2) echoed the majority of the concepts of health and wellbeing present in the literature review compiled by Sempik, Aldridge and Becker (2002), whom created a summarized model of the ‘activities, processes and outcomes’ of practicing social and therapeutic horticulture. Burgess’ (1989) discussion on the activities in horticulture as offering “excellent outlets for creative expression” (p.53) was echoed in the findings of this research paper. For example, Interviewee B shared about the sustainable resourcefulness of her garden program participants who made use of trees that had to be cut down. The children decorated the remaining tree trunks as they painted images and designs to beautify the garden space.

A marvel of horticulture that was less present within the academic literature was the notion of long-lasting relationships with the landscape that arise through the programming. Interviewee C shared a story of a participant whom so strongly enjoyed the program and nurturing of the space that he comes to visit the space from time to time to pay his respects and visit. A similar example of life-long connectedness to a therapeutic garden space was present in the case of interviewee F, who participated in the garden as a youth, and as an adult works as a coordinator for the program. For the larger context of HT and more broadly for therapies in general, participation can lead to life-changing and lifelong memories. Burgess (1989) also echoed that “social interaction is one inevitable positive outcome of participation in horticultural activities. They tend to bring people of a common interest together in a most enjoyable way” (p.55). For many of the groups receiving horticultural wellness programs, marginalization and systemic oppression are often noted as experienced barriers to engagement and freedom of accessing the environment and social interaction. The model of the enabling gardens is one method of ensuring accessibility to the benefits of gardening and nature-based wellness.

It is important to keep in mind the context of Toronto as a post-industrial, metropolitan landscape when researching the health and wellness of the people who live and work here. For people experiencing marginalization and oppression in Toronto, the sense of safety and healthy self-identification within this landscape is put under duress. This reflects in Albrecht's term of 'solastalgia', the "pain or sickness caused by the loss of, or inability to derive solace from, the present state of one's home environment. Solastalgia exists when there is recognition that the beloved place in which one resides is under assault (physical desolation)" (p.35, 2006). As horticultural therapy services often marginalized and oppressed members our communities, the role of the program facilitator is often to have an in-depth awareness of the 'solastalgia' that program participants may be experiencing. It was found during the interview process and through the analysis of the interviews that there was an awareness of such.

Working with marginalized populations means working with an understanding of broad social issues. The field of horticultural wellness programming has been working for decades, alongside the fields of urban agriculture and food security. Dunlap, Harmon and Kyle noted that many participants of urban agriculture programs get involved for reasons including "concerns about personal health, environmental degradation and community food security" (2013, p. 397). The limitations in access to greenspace in Toronto means that people cannot self-determine many things that they could, if they had greater access to land. Besthorn and Canda critically asserted that "from the standpoint of deep ecology, social work practice needs to address the problems that arise from excessive and destructive interference with nature" (2008, p.85). It has in recent years, been the fields of urban agriculture, food security, and community food justice that have advocated at policy levels for the rights of marginalized groups that have experienced marginalization and inequalities around food justice, land rights and environmental

discrimination. There is perhaps room, on top of the localized work done, that the field of Horticultural Therapy further their advocacy at the macro stage about the inequalities and structural issues that present themselves alongside the populations that access their services.

This also brings awareness back to the gaps of environmental issues advocacy that exist within the limited basic “person-in-environment perspective” as stated by CASW (2008). The provincial guides of the Ontario College of Social Workers and Social Service Workers’ *Code of Ethics and Standards of Practice* articulates in its final point of ethics that “a social worker or social service worker shall advocate change in the best interest of the client, and for the overall benefit of society, the environment and the global community” (OCSWSS, 2008, p.2). As we have seen the depths to which individual and social healing transformations come to be through working with the landscape as seen in Horticultural Therapy, it is my recommendation that social workers and the regulatory organizations who outline the scope of social work practice in this landscape, consider the possibilities of deeper ecological reaches in our social work ethics and policies. Critical social work theory acknowledges deep ecological perspectives as necessary for more than just environmental disciplines in our globalized, post-industrial era. Zapf (2010) reminded us that “ecological issues cannot be relegated to one separate discipline assigned exclusive responsibility for the physical environment” (2010, para.3). Zapf added “the importance of our profession learning to think and act ecologically if we are to have relevance for addressing the serious environmental concerns now facing humankind” (2010, para.3). The reality of many of our social issues becoming influenced by electronic and internet technology is well interconnected with further distancing of urban city dwellers from local environmental interaction. This was articulated by interviewee D, who shed light on the ‘chronic disconnection’ from the environment that she sees with urban youth program participants.

To reel focus back into the scope of this paper, the aim was to explore and understand how service providers are engaging in healing and wellness programs in Toronto through engagement in horticulture and the local ecological landscape. The comprehensive extent to which horticulture is used as a vehicle for healing and wellness in Toronto far extends the range that was envisioned prior to conducting the research process. Even coming into the process with years of experience in environmental work and urban agriculture experience, the wide-ranging scope of practice for horticulture in community and institutional settings in Toronto proved that the field is servicing broad populations through diverse perspectives and project frameworks. The limitations of this research paper permit a platform for broader research and analysis to illustrate the need for environmentally-interconnected social work, community-based and institutional programs in the City of Toronto and the Greater Toronto Area.

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APPENDICES:

Appendix A-Consent Forms

**Appendix B-Letter of invitation
-Interview Guide**

Appendix C-Ethics forms

Appendix D-Visuals:

Circular Diagram of participant groups a

Table: Gerund shared by facilitators as they explained their services

Table: Noted codes and data extracted from interviews

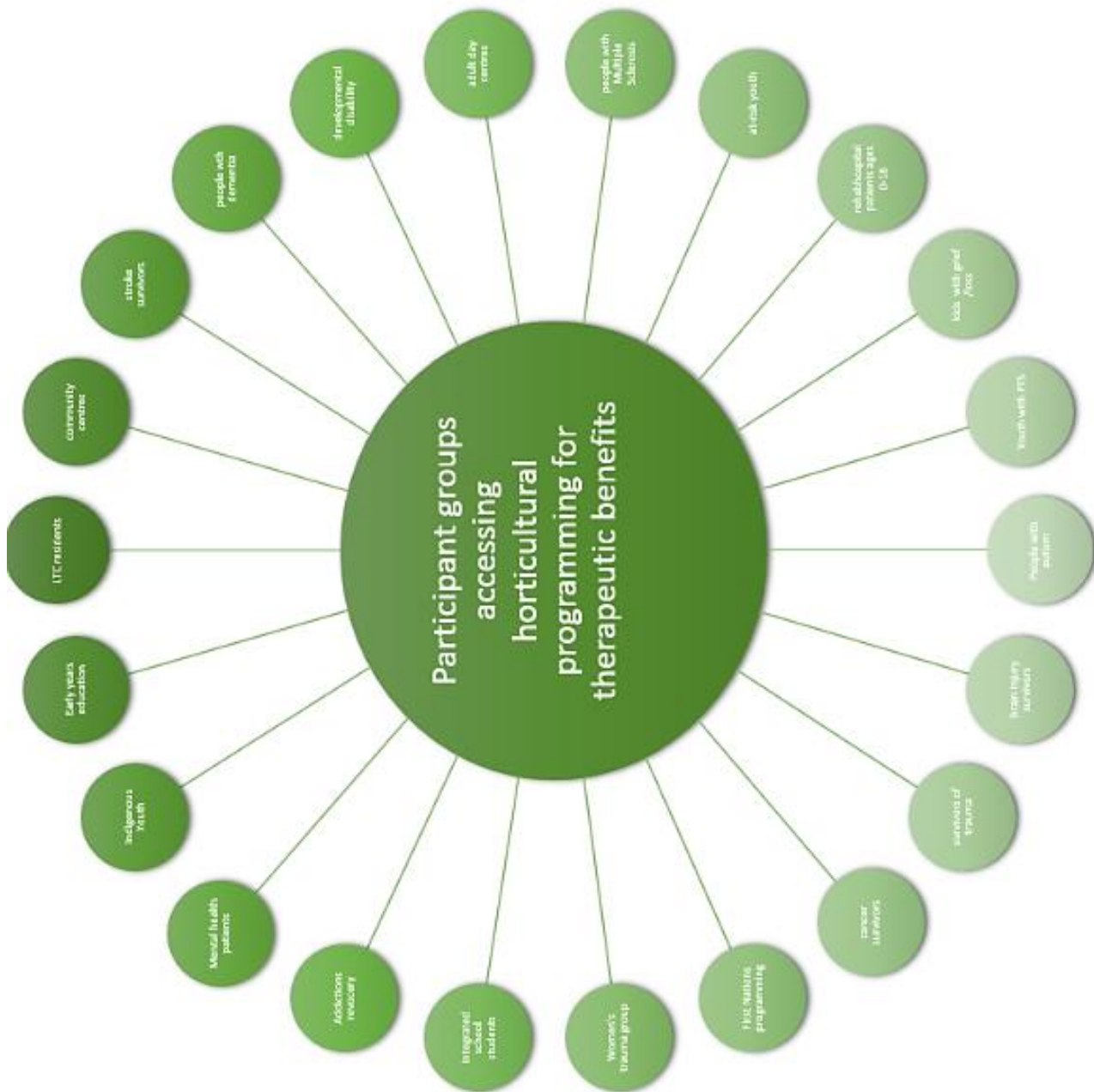


Table 2: Gerund Processes shared by facilitators as they explained their services:

Accessing foods	Decorating	Holding people together	Psychoeducating	Volunteering
Acknowledging	Delivering	Hydrating	Rebuilding	Walking
Activating	Designing	Improving health	Reducing trauma symptoms	Wandering in gardens
Adapting	Developing	Improving mindfulness	Relaxing	Watching wildlife
Attuning senses	Digging	Improving soil quality	Remembering	Watering
Being aware	Documenting	Individualizing programs	Reminiscing	Weaving
Being meaningful	Drawing attention	Interacting	Report-writing	Weeding
Boosting confidence	Eating	Inviting others	Resourcing	Working with grief / loss
Breaking down boundaries	Enabling	Learning	Responding to environment	
Breaking down stigma	Engaging	Letting go	Returning to visit	
Bringing together	Evaluating	Making herbal teas	Scheduling	
Burying	Exchanging	Making nature accessible	Secluding	
Canning	Exchanging	Making potpourri	Seeding	
Checking-in	Experiencing	Making tinctures	Selling	
Choosing	Finding meaning	Making vinegars	Sensory processing	
Chopping	Finding place	Measuring progress	Soapmaking	
Coming together	Forgetting	Monitoring	Spending time	
Commemorating	Fundraising	Motivating	Spending time	
Committee-forming	Gardening	Nature sitting	Stimulating conversation	
Complimenting	Gathering	Nurturing	Stimulating senses	
Composting	Germinating	Nurturing self	Stretching	
Connecting	Getting dirty	Painting	Surveying progress	
Connecting to self	Getting out	Partnering	Taking care	
Connecting with a plant	Giving back	Picking	Taking ownership	
Connecting with community	Goal-setting	Planting	Talking	
Cooking	Going outside	Practicing ceremony	Talking about wildlife	
Coordinating	Grieving	Preserving	Teaching others	
Coping	Grinding flour	Preventing relapse	Terracing	
Counselling	Growing confidence	Processing	Training	
Crafting	Growing food	Promoting discussion	Transitioning	
Creating an oasis	Harvesting	Promoting social skills	Transplanting	
Creating habitat	Having ceremony	Protecting self	Using gardens	
Dealing with adversity	Having purpose	Providing exercise	Using land	

Interviewee	Populations Served through HT	Features of horticultural activities for wellness
A	<ul style="list-style-type: none"> -Operating a fee-for-service professional approach -residents in LTC homes, including: <ul style="list-style-type: none"> →with dementia →stroke survivors →developmental disabilities →people with Multiple Sclerosis -6 LTC facilities in Toronto -local community centres -adult day centres -working with youth from 'priority schools' that may not have on-site access to gardening or greenhouse -running various focused workshops across community settings 	<p>“To be technically therapeutic, it would be working with clients that are in a clinical setting, that have a diagnosis and therefore a care plan. Our connection as therapist is the documentation to the care plan. Whether its ‘HT’ in a therapeutic setting, or ‘HT’ in a vocational program, or in a social community centre gardening program, they’re all planned, deliberated, documented and goal-oriented” (L.114-119)</p> <ul style="list-style-type: none"> -teaching others about gardening -garden design -holistic healing & ‘energy work’ -activities in LTC property gardens -‘wander garden’ programming -year-round programming -appropriate activities for populations working with -often working with diverse participant needs within the same group “whatever we are making or doing is planned, so that it will be successful for all abilities” (L.73-74) -providing exercise “activities hopefully provide stimulation for all the senses, so: colour, texture, scents, tastes, smells...even sounds” (L.75-76) -deciding on plants to grow based on what participants enjoyed in childhood / throughout life -indoor activities, including: <ul style="list-style-type: none"> →growing plant cuttings under a plant growing light →planting a spring garden, starting by growing in planters indoors -Outdoor activities, including: <ul style="list-style-type: none"> →gardening in mixed-height soil beds (physical exercise) →raised-bed gardening -using edible plants -talking about connecting people through food -using herbs for potpourri -selling crafts made from grown materials for fundraising for the program -harvesting from the garden and taking to the kitchen to process into foods -growing a ‘picking garden’: focusing on flowers to pick for bouquets -talking about soothing scents (i.e. lavender) -making herbal teas and tinctures

<i>Interviewee</i>	<i>Populations Served through HT</i>	<i>Features of horticultural activities for wellness</i>
B	<ul style="list-style-type: none"> -catchment for age-range is 0-18 and families -outpatient services -day treatment participants -early years program participants -takes place in 'an outdoor-nature setting', with a garden -formed a garden committee with staff -kids dealing with grief and loss -youth with post-trauma symptoms -ability to target specific kids if the style of programming fits interests -working with children and parents / family together -staff access garden space to meditate, enjoy lunch outside. -staff commemorate with ceremony, trees and stones former staff who've passed on. 	<ul style="list-style-type: none"> -“an education and therapeutic program” (L.49). -psychoeducation around mental health -promoting social skills -promoting health and wellness -promoting healthy parent-child-interaction -goals of improving mindfulness and sensory attunement -play-based programming -art-based programming -trying to find creative ways to engage ‘youth who don’t want to talk’ -“feeling more open to share in a natural way as opposed to a prescribed was as we think they should do” (L.94-95) -programming can occur ‘outside of the therapy room’ -“a connection with burying things and things growing, and planting things and hope... thinking about metaphors for growth” (L.35-36) -planting bulbs -using a seedling incubator -extending gardening season through growing longer-germinating seeds or growing sprouts indoors. -providing horticultural activities at special festivities / community fair -salsa party during tomato-harvesting period -planting, growing, preparing vegetables, fruit, berries -clients can access the garden space before, during, or after therapy session. -service users can “visit the garden, nurture it, take care of it. Parents and children have the freedom to walk around” (L.71-72) -during winter, talking about “what happens to the plants and what happens to the seeds... rebirth and spring can feed into some of the metaphors...” -Fruit trees planted in honour of staff members -Planted trees and conducted ceremony in honour of staff who have passed on. Commemorative markers. -older trees that are storm-damaged or sick are used for benches or decoration. -converting an unused sandbox into a strawberry patch. -planting cedar along the edge of property for sound barrier and safety from nearby roads -using physical gardening activities (i.e. digging in soil) for participants to ‘let out steam’.

Interviewee	C	<i>Populations Served through HT</i>	<i>Features of horticultural activities for wellness</i>
		<ul style="list-style-type: none"> -participants ranging from 0 to 95 years of age. →with autism →with brain injury →with dementia →trauma-based issues →people recovering from stroke →youth-at-risk →living with developmental delay →people with physical disability →women's trauma group →workshops for cancer survivors →students from schools →seniors →people living in LTC →Indigenous Youth program 	<ul style="list-style-type: none"> -Enabling Garden model -therapeutic garden framework. The terms HT and TH are used on-site. -Interviewee's defining of HT: "The use of plants and the land to promote wellness of mind, body and spirit" (L.154) →"to make nature accessible to people, regardless of ability" (L.31) →"overarching goal to bring people here to connect, in whatever way, because it helps mind, body and spirit" (L.34-35) -for people with autism, HT programming around sensory processing, group interaction, relationship issues. -working with physical aspects of health, exercise -also working with 'invisible signs' of trauma, grief, loss →"every program is definitely related and connected to what's happening outside" → (L.111) -conducting 'nature sits': "15 minutes of no talking, just sitting, and allowing whatever sounds, senses to come in, and then we talk about it" (L. 68-69) -grieving ceremony for program participants who have passed on, painting rocks -Indigenous Youth program for leadership, education, connection to the land and practicing HT →Indigenous elders as facilitator, spiritual/cultural education etc. →Indigenous worldview and ceremony as a strong component to this youth program -For women's trauma group, activities with components of metaphorically 'letting go' are conducted with the landscape and river that run through the program space. -recipe exchanges -nature-based crafts -seeding -making soaps and lip balms from flowers grown in the garden -making scarves (for keeping warm in cooler weather) (practical preparedness skills) -Physical therapeutic elements include: <ul style="list-style-type: none"> →patterning, eye coordination and colour coordination →stretching →tool adaptations for accessible physical activities → "using the body in a way to connect with a plant but also connect with what's best for the plant" (L.143-144) -seeing "the land as a healing tool" (L.242)

Interviewee	D		Features of horticultural activities for wellness
<p>Populations Served through HT</p> <ul style="list-style-type: none"> -living with mental health issues -in-patient and out-patients of the hospital -self-referral or referred by a health professional -other hospital clients and staff will make use of the garden space to relax, meditate, sit. -selling grown produce in-market is a way of connection with the wider neighbourhood community (breaking down stigma) 			<ul style="list-style-type: none"> -mental health hospital -uses a recreational and therapeutic garden model -facilitator is trained in HT -objectives including: <ul style="list-style-type: none"> →to improve overall health and wellness →improve food literacy and security →increase people's access to and consumption of vegetables and fruit →to build transferable skills →to build a healthier environment and community -year-round gardening program -winter programming takes place in-greenhouse -seeding -growing microgreens -growing cuttings -growing herbs -canning grown produce -making herbal vinegars -making herbal potpourri -learning about basics of organic gardening -selling grown produce at-market →showing the community what can be grown on institutional lands -the initial need of soil remediation: <ul style="list-style-type: none"> →urban soils post-construction of hospital requiring fertilizing, <u>monitoring</u> and composting to make the soils rich for horticulture -composting -terraced gardens constructed into hillsides on-site -raised bed gardens <ul style="list-style-type: none"> →making friends →talking about wildlife around the garden -Planting native plants and flowers

<p>Interviewee E & F</p>	<table border="1"> <thead> <tr> <th data-bbox="310 1360 1333 1801"> Populations Served through HT </th><th data-bbox="310 205 1333 1360"> Features of horticultural activities for wellness </th></tr> </thead> <tbody> <tr> <td data-bbox="310 1360 1333 1801"> <ul style="list-style-type: none"> -ages 6 to 18 -patients of the rehabilitation hospital -out-patient and in-patient participants -integrated programming for youth with and without special needs -school students -participants mostly from GTA, some from other countries receiving services from the hospital </td><td data-bbox="310 205 1333 1360"> <ul style="list-style-type: none"> -an outdoor art, gardening program compliment to the work conducted within the walls of the hospital -year-round programming, “bringing the seasons in” -learning is “practiced and experiential” -takes place on outside grounds of the hospital as well as indoors. -vision of further building upon resilience of participants -nurturing connection to nature through organic gardening -ravine and valley parklands surround the site -in the past, going into the ravine and park space for nature walks -“there are activities that are much shaped in response to the environment” (i.e. gathering, watering, weeding, planting, digging) -growing herbs, vegetables, fruit -gathering wild grapevine leaves, wild mulberries and picking from pear tree growing on-site -“we do try to access and resource the natural site, with knowledge to teach kids how to do that respectfully and sustainably” (L.50-51) -using renewable willow from on-site for basketry -incorporating wildlife on-site into the lore and culture of the garden space → “If kids notice, we notice” (how children experience and learn nature) -special festivities (i.e. apple-roasting bonfire) -mid-raised garden beds for accessibility for all -diversity in participants “to encourage interactions between kids that may not otherwise interact” (L.125-126) → sharing tasks → acting as a community -“we start from more of a growth mindset and more of an asset mindset” vs. a ‘healing mindset’ </td></tr> </tbody> </table>	Populations Served through HT	Features of horticultural activities for wellness	<ul style="list-style-type: none"> -ages 6 to 18 -patients of the rehabilitation hospital -out-patient and in-patient participants -integrated programming for youth with and without special needs -school students -participants mostly from GTA, some from other countries receiving services from the hospital 	<ul style="list-style-type: none"> -an outdoor art, gardening program compliment to the work conducted within the walls of the hospital -year-round programming, “bringing the seasons in” -learning is “practiced and experiential” -takes place on outside grounds of the hospital as well as indoors. -vision of further building upon resilience of participants -nurturing connection to nature through organic gardening -ravine and valley parklands surround the site -in the past, going into the ravine and park space for nature walks -“there are activities that are much shaped in response to the environment” (i.e. gathering, watering, weeding, planting, digging) -growing herbs, vegetables, fruit -gathering wild grapevine leaves, wild mulberries and picking from pear tree growing on-site -“we do try to access and resource the natural site, with knowledge to teach kids how to do that respectfully and sustainably” (L.50-51) -using renewable willow from on-site for basketry -incorporating wildlife on-site into the lore and culture of the garden space → “If kids notice, we notice” (how children experience and learn nature) -special festivities (i.e. apple-roasting bonfire) -mid-raised garden beds for accessibility for all -diversity in participants “to encourage interactions between kids that may not otherwise interact” (L.125-126) → sharing tasks → acting as a community -“we start from more of a growth mindset and more of an asset mindset” vs. a ‘healing mindset’
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